

Multiplication Property

If segments (or angles) are congruent, then their like multiples are congruent.

IF $\angle A \cong \angle B$ then $2 \cdot \angle A \cong 2 \cdot \angle B$

IF $\overline{AB} \cong \overline{CD}$ then $2 \cdot \overline{AB} \cong 2 \cdot \overline{CD}$

Division Property

If segments (or angles) are congruent, then their like divisions are congruent.

IF $\angle A \cong \angle B$ then $\frac{\angle A}{2} \cong \frac{\angle B}{2}$

IF $\overline{AB} \cong \overline{CD}$ then $\frac{\overline{AB}}{2} \cong \frac{\overline{CD}}{2}$

Transitive Properties

If angles (or segments) are congruent to the same angle (or segment), then they are congruent to each other.

IF $\overline{AB} \cong \overline{CD}$ AND $\overline{CD} \cong \overline{EF}$ then $\overline{AB} \cong \overline{EF}$

IF $\angle A \cong \angle B$ AND $\angle B \cong \angle C$ then $\angle A \cong \angle C$

If angles (or segments) are congruent to congruent angles (or segments), then they are congruent to each other.

IF $\overline{AB} \cong \overline{CD}$, $\overline{EF} \cong \overline{GH}$ AND $\overline{AB} \cong \overline{EF}$ then $\overline{CD} \cong \overline{GH}$

IF $\angle A \cong \angle B$, $\angle C \cong \angle D$ AND $\angle A \cong \angle C$ then $\angle B \cong \angle D$

Substitution Property

IF $a = b$ then b can be substituted in for a .

Reflexive Property

$\angle A \cong \angle A$

~~$\overline{AB} \cong \overline{AB}$~~

SYMMETRIC PROPERTY

IF $\angle A \cong \angle B$ then $\angle B \cong \angle A$.

IF $\overline{AB} \cong \overline{CD}$ then $\overline{CD} \cong \overline{AB}$.